

**AMENDMENTS TO THE CLAIMS:**

Please cancel claims 1-42 and 45-49 without prejudice.

Please amend claims 50, 51, 53 and 61 as follows:

Please add new claims 67-86.

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Claims 1-41 (Cancelled)**

42. **(Withdrawn)** A method for detecting a presence or an absence of cancer cells in an individual, the method comprising: contacting cells from the individual with the antibody according to any of claims 22 or 24; and detecting a complex of a CAP from the cancer cells and the antibody, wherein detection of the complex correlates with the presence of cancer cells in the individual.

43. **(Withdrawn)** A method for inhibiting growth of cancer cells in an individual, the method comprising: administering to the individual an effective amount of a pharmaceutical composition according to any of claims 37, 38, or 39.

44. **(Withdrawn)** A method for delivering a therapeutic agent to cancer cells in an individual, the method comprising: administering to the individual an effective amount of a pharmaceutical composition according to any of claims 37, 38, or 39.

**Claims 45-49 (Cancelled)**

50. **(Currently amended)** A method of screening for anticancer activity comprising: (a) providing a cell that expresses a cancer associated (CA) gene encoded by a nucleic acid sequence comprising a nucleotide sequence at least 95% identical to SEQ ID NO:1171 ~~selected from the~~

group consisting of the sequences SEQ ID NOS: 6, 12, 24, 38, 46, 56, 64, 78, 90, 99, 111, 131, 139, 147, 155, 177, 187, 201, 207, 217, 234, 249, 271, 292, 300, 310, 322, 328, 336, 350, 374, 394, 407, 419, 437, 455, 465, 485, 498, 506, 518, 526, 534, 542, 550, 556, 564, 572, 588, 602, 610, 618, 632, 644, 654, 660, 668, 674, 686, 700, 712, 720, 732, 749, 763, 775, 785, 795, 813, 819, 829, 837, 851, 859, 869, 887, 905, 919, 927, 937, 951, 961, 971, 983, 995, 1005, 1019, 1029, 1035, 1047, 1053, 1059, 1067, 1079, 1087, 1093, 1101, 1117, 1125, 1131, 1153, 1159, 1171, 1183, 1195, 1205, 1213, 1237, 1265, 1277, 1283, 1295, 1305, 1315, 1328, 1354, 1362, 1376, 1386, 1398, 1408, 1418, 1424, 1434, 1446, 1456, 1468, 1480, 1486, 1495, 1505, 1515, 1525, 1535, 1549, 1559, 1571, 1587, 1607, 1617, 1629, 1647, 1655, 1663, 1685, 1701, 1711, 1719, and 1735 shown in Tables 1-152, or fragment thereof, said fragment comprising at least 15 contiguous nucleotides of SEQ ID NO:1171; (b) contacting a tissue sample derived from a cancer cell with an anticancer drug candidate; and (c) monitoring an effect of the anticancer drug candidate on an expression of the CA polynucleotide in the tissue sample; wherein a candidate anticancer drug which modulates the expression of the CA gene is identified as having anticancer activity; wherein said nucleotide sequence at least 95% identical to SEQ ID NO:1171 encodes a polypeptide with oligosaccharyl transferase activity.

51. (Currently amended) The method of screening for anticancer activity according to claim 50, wherein the CA gene ~~comprises at least one~~ encodes a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:1172, or fragment thereof comprising at least 15 contiguous nucleotides of SEQ ID NO:1172 sequence selected from the group consisting of the sequences SEQ ID NOS: 7, 13, 15, 17, 19, 25, 27, 29, 31, 33, 39, 41, 47, 49, 57, 59, 65, 67, 69, 71, 73, 79, 81, 83, 85, 91, 100, 102, 104, 106, 112, 114, 116, 118, 120, 122, 124, 126, 132, 134, 140, 142, 148, 156, 158, 160, 162, 178, 180, 182, 188, 190, 192, 194, 196, 202, 208, 210, 212, 218, 220, 222, 224, 235, 237, 239, 241, 243, 245, 247, 250, 252, 254, 256, 258, 260, 262, 272, 274, 276, 293, 295, 301, 303, 311, 313, 315, 317, 323, 329, 331, 337, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 375, 377, 379, 381, 383, 385, 387, 395, 397, 408, 410, 412, 414, 420, 422, 424, 426, 428, 430, 438, 440, 442, 444, 446, 448, 450, 456, 458, 466, 468, 470, 472, 474, 476, 478, 486, 488, 490, 499, 501, 507, 509, 519, 527, 529, 535, 537, 543, 545,

551, 557, 559, 565, 567, 573, 575, 577, 579, 581, 583, 589, 591, 593, 595, 603, 605, 611, 613, 619, 621, 623, 625, 627, 633, 635, 637, 639, 645, 647, 649, 655, 661, 663, 669, 675, 677, 679, 687, 689, 691, 693, 695, 701, 703, 705, 707, 713, 715, 721, 733, 735, 750, 752, 754, 756, 758, 764, 766, 768, 770, 776, 786, 788, 790, 796, 798, 800, 802, 804, 806, 808, 814, 820, 822, 830, 832, 838, 840, 842, 844, 846, 852, 854, 860, 862, 870, 872, 874, 876, 878, 880, 888, 890, 892, 894, 896, 898, 900, 906, 908, 910, 912, 920, 922, 928, 938, 940, 942, 944, 946, 952, 954, 956, 962, 964, 966, 972, 974, 976, 978, 984, 986, 988, 990, 996, 998, 1000, 1006, 1008, 1010, 1012, 1014, 1020, 1022, 1024, 1030, 1036, 1038, 1040, 1042, 1048, 1054, 1060, 1062, 1068, 1070, 1072, 1074, 1080, 1082, 1088, 1094, 1096, 1102, 1104, 1106, 1108, 1110, 1112, 1118, 1120, 1126, 1132, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1154, 1160, 1162, 1164, 1172, 1184, 1186, 1188, 1190, 1196, 1198, 1200, 1206, 1208, 1214, 1216, 1218, 1220, 1222, 1238, 1240, 1242, 1244, 1246, 1248, 1250, 1252, 1254, 1256, 1258, 1266, 1268, 1270, 1278, 1284, 1286, 1288, 1290, 1296, 1298, 1300, 1306, 1316, 1318, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1355, 1357, 1363, 1365, 1367, 1369, 1371, 1377, 1379, 1381, 1387, 1389, 1391, 1393, 1399, 1401, 1403, 1409, 1419, 1425, 1427, 1435, 1437, 1439, 1441, 1447, 1457, 1459, 1461, 1469, 1471, 1473, 1475, 1481, 1487, 1496, 1498, 1500, 1506, 1508, 1510, 1516, 1518, 1520, 1526, 1528, 1536, 1538, 1550, 1552, 1554, 1560, 1562, 1564, 1572, 1574, 1576, 1588, 1590, 1592, 1594, 1608, 1610, 1612, 1618, 1620, 1622, 1624, 1630, 1632, 1634, 1636, 1638, 1648, 1650, 1656, 1664, 1666, 1668, 1670, 1672, 1674, 1676, 1678, 1686, 1688, 1690, 1702, 1704, 1706, 1712, 1714, 1720, 1722, 1724, 1726, 1728, 1730, 1736, 1738, and 1740 shown in Tables 1-152.

52. (Original) The method of screening for anticancer activity according to claim 50, further comprising: (d) comparing the level of expression in the absence of said drug candidate to the level of expression in the presence of the drug candidate.

53. (Currently amended) The method of screening for anticancer activity according to claim 50, wherein the drug candidate is an inhibitor of transcription and further wherein the nucleic acid encodes a nucleotide sequence at least 98% identical to SEQ ID NO:1172 sequence

is selected from the group consisting of SEQ ID NOS: 7, 13, 15, 17, 19, 25, 27, 29, 31, 33, 39, 41, 47, 49, 57, 59, 65, 67, 69, 71, 73, 79, 81, 83, 85, 91, 100, 102, 104, 106, 112, 114, 116, 118, 120, 122, 124, 126, 132, 134, 140, 142, 148, 156, 158, 160, 162, 178, 180, 182, 188, 190, 192, 194, 196, 202, 208, 210, 212, 218, 220, 222, 224, 235, 237, 239, 241, 243, 245, 247, 250, 252, 254, 256, 258, 260, 262, 272, 274, 276, 293, 295, 301, 303, 311, 313, 315, 317, 323, 329, 331, 337, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 375, 377, 379, 381, 383, 385, 387, 395, 397, 408, 410, 412, 414, 420, 422, 424, 426, 428, 430, 438, 440, 442, 444, 446, 448, 450, 456, 458, 466, 468, 470, 472, 474, 476, 478, 486, 488, 490, 499, 501, 507, 509, 519, 527, 529, 535, 537, 543, 545, 551, 557, 559, 565, 567, 573, 575, 577, 579, 581, 583, 589, 591, 593, 595, 603, 605, 611, 613, 619, 621, 623, 625, 627, 633, 635, 637, 639, 645, 647, 649, 655, 661, 663, 669, 675, 677, 679, 687, 689, 691, 693, 695, 701, 703, 705, 707, 713, 715, 721, 733, 735, 750, 752, 754, 756, 758, 764, 766, 768, 770, 776, 786, 788, 790, 796, 798, 800, 802, 804, 806, 808, 814, 820, 822, 830, 832, 838, 840, 842, 844, 846, 852, 854, 860, 862, 870, 872, 874, 876, 878, 880, 888, 890, 892, 894, 896, 898, 900, 906, 908, 910, 912, 920, 922, 928, 938, 940, 942, 944, 946, 952, 954, 956, 962, 964, 966, 972, 974, 976, 978, 984, 986, 988, 990, 996, 998, 1000, 1006, 1008, 1010, 1012, 1014, 1020, 1022, 1024, 1030, 1036, 1038, 1040, 1042, 1048, 1054, 1060, 1062, 1068, 1070, 1072, 1074, 1080, 1082, 1088, 1094, 1096, 1102, 1104, 1106, 1108, 1110, 1112, 1118, 1120, 1126, 1132, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1154, 1160, 1162, 1164, 1172, 1184, 1186, 1188, 1190, 1196, 1198, 1200, 1206, 1208, 1214, 1216, 1218, 1220, 1222, 1238, 1240, 1242, 1244, 1246, 1248, 1250, 1252, 1254, 1256, 1258, 1266, 1268, 1270, 1278, 1284, 1286, 1288, 1290, 1296, 1298, 1300, 1306, 1316, 1318, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1355, 1357, 1363, 1365, 1367, 1369, 1371, 1377, 1379, 1381, 1387, 1389, 1391, 1393, 1399, 1401, 1403, 1409, 1419, 1425, 1427, 1435, 1437, 1439, 1441, 1447, 1457, 1459, 1461, 1469, 1471, 1473, 1475, 1481, 1487, 1496, 1498, 1500, 1506, 1508, 1510, 1516, 1518, 1520, 1526, 1528, 1536, 1538, 1550, 1552, 1554, 1560, 1562, 1564, 1572, 1574, 1576, 1588, 1590, 1592, 1594, 1608, 1610, 1612, 1618, 1620, 1622, 1624, 1630, 1632, 1634, 1636, 1638, 1648, 1650, 1656, 1664, 1666, 1668, 1670, 1672, 1674, 1676, 1678, 1686, 1688, 1690, 1702, 1704, 1706, 1712, 1714, 1720, 1722, 1724, 1726, 1728, 1730, 1736, 1738, and 1740 shown in Tables 1-152.

54. (Withdrawn) A method for detecting cancer associated with expression of a polypeptide in a test cell sample, comprising the steps of: (i) detecting a level of expression of at least one polypeptide selected from the group consisting of SEQ ID NOS: 8, 14, 16, 18, 20, 26, 28, 30, 32, 34, 40, 42, 48, 50, 58, 60, 66, 68, 70, 72, 74, 80, 82, 84, 86, 92, 101, 103, 105, 107, 113, 115, 117, 119, 121, 123, 125, 127, 133, 135, 141, 143, 149, 157, 159, 161, 163, 179, 181, 183, 189, 191, 193, 195, 197, 203, 209, 211, 213, 219, 221, 223, 225, 236, 238, 240, 242, 244, 246, 248, 251, 253, 255, 257, 259, 261, 263, 273, 275, 277, 294, 296, 302, 304, 312, 314, 316, 318, 324, 330, 332, 338, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 376, 378, 380, 382, 384, 386, 388, 396, 398, 409, 411, 413, 415, 421, 423, 425, 427, 429, 431, 439, 441, 443, 445, 447, 449, 451, 457, 459, 467, 469, 471, 473, 475, 477, 479, 487, 489, 491, 500, 502, 508, 510, 520, 528, 530, 536, 538, 544, 546, 552, 558, 560, 566, 568, 574, 576, 578, 580, 582, 584, 590, 592, 594, 596, 604, 606, 612, 614, 620, 622, 624, 626, 628, 634, 636, 638, 640, 646, 648, 650, 656, 662, 664, 670, 676, 678, 680, 688, 690, 692, 694, 696, 702, 704, 706, 708, 714, 716, 722, 734, 736, 751, 753, 755, 757, 759, 765, 767, 769, 771, 777, 787, 789, 791, 797, 799, 801, 803, 805, 807, 809, 815, 821, 823, 831, 833, 839, 841, 843, 845, 847, 853, 855, 861, 863, 871, 873, 875, 877, 879, 881, 889, 891, 893, 895, 897, 899, 901, 907, 909, 911, 913, 921, 923, 929, 939, 941, 943, 945, 947, 953, 955, 957, 963, 965, 967, 973, 975, 977, 979, 985, 987, 989, 991, 997, 999, 1001, 1007, 1009, 1011, 1013, 1015, 1021, 1023, 1025, 1031, 1037, 1039, 1041, 1043, 1049, 1055, 1061, 1063, 1069, 1071, 1073, 1075, 1081, 1083, 1089, 1095, 1097, 1103, 1105, 1107, 1109, 1111, 1113, 1119, 1121, 1127, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1155, 1161, 1163, 1165, 1173, 1185, 1187, 1189, 1191, 1197, 1199, 1201, 1207, 1209, 1215, 1217, 1219, 1221, 1223, 1239, 1241, 1243, 1245, 1247, 1249, 1251, 1253, 1255, 1257, 1259, 1267, 1269, 1271, 1279, 1285, 1287, 1289, 1291, 1297, 1299, 1301, 1307, 1317, 1319, 1330, 1332, 1334, 1336, 1338, 1340, 1342, 1344, 1346, 1348, 1356, 1358, 1364, 1366, 1368, 1370, 1372, 1378, 1380, 1382, 1388, 1390, 1392, 1394, 1400, 1402, 1404, 1410, 1420, 1426, 1428, 1436, 1438, 1440, 1442, 1448, 1458, 1460, 1462, 1470, 1472, 1474, 1476, 1482, 1488, 1497, 1499, 1501, 1507, 1509, 1511, 1517, 1519, 1521, 1527, 1529, 1537, 1539, 1551, 1553, 1555, 1561, 1563, 1565, 1573, 1575, 1577, 1589, 1591, 1593, 1595, 1609, 1611, 1613, 1619, 1621, 1623,

1625, 1631, 1633, 1635, 1637, 1639, 1649, 1651, 1657, 1665, 1667, 1669, 1671, 1673, 1675, 1677, 1679, 1687, 1689, 1691, 1703, 1705, 1707, 1713, 1715, 1721, 1723, 1725, 1727, 1729, 1731, 1737, 1739, and 1741 shown in Tables 1-152, or a fragment thereof; and (ii) comparing the level of expression of the polypeptide in the test sample with a level of expression of polypeptide in a normal cell sample, wherein an altered level of expression of the polypeptide in the test cell sample relative to the level of polypeptide expression in the normal cell sample is indicative of the presence of cancer in the test cell sample.

55. (**Withdrawn**) A method for detecting cancer associated with expression of a polypeptide in a test cell sample, comprising the steps of: (i) detecting a level of activity of at least one polypeptide selected from the group consisting of SEQ ID NOS: 8, 14, 16, 18, 20, 26, 28, 30, 32, 34, 40, 42, 48, 50, 58, 60, 66, 68, 70, 72, 74, 80, 82, 84, 86, 92, 101, 103, 105, 107, 113, 115, 117, 119, 121, 123, 125, 127, 133, 135, 141, 143, 149, 157, 159, 161, 163, 179, 181, 183, 189, 191, 193, 195, 197, 203, 209, 211, 213, 219, 221, 223, 225, 236, 238, 240, 242, 244, 246, 248, 251, 253, 255, 257, 259, 261, 263, 273, 275, 277, 294, 296, 302, 304, 312, 314, 316, 318, 324, 330, 332, 338, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 376, 378, 380, 382, 384, 386, 388, 396, 398, 409, 411, 413, 415, 421, 423, 425, 427, 429, 431, 439, 441, 443, 445, 447, 449, 451, 457, 459, 467, 469, 471, 473, 475, 477, 479, 487, 489, 491, 500, 502, 508, 510, 520, 528, 530, 536, 538, 544, 546, 552, 558, 560, 566, 568, 574, 576, 578, 580, 582, 584, 590, 592, 594, 596, 604, 606, 612, 614, 620, 622, 624, 626, 628, 634, 636, 638, 640, 646, 648, 650, 656, 662, 664, 670, 676, 678, 680, 688, 690, 692, 694, 696, 702, 704, 706, 708, 714, 716, 722, 734, 736, 751, 753, 755, 757, 759, 765, 767, 769, 771, 777, 787, 789, 791, 797, 799, 801, 803, 805, 807, 809, 815, 821, 823, 831, 833, 839, 841, 843, 845, 847, 853, 855, 861, 863, 871, 873, 875, 877, 879, 881, 889, 891, 893, 895, 897, 899, 901, 907, 909, 911, 913, 921, 923, 929, 939, 941, 943, 945, 947, 953, 955, 957, 963, 965, 967, 973, 975, 977, 979, 985, 987, 989, 991, 997, 999, 1001, 1007, 1009, 1011, 1013, 1015, 1021, 1023, 1025, 1031, 1037, 1039, 1041, 1043, 1049, 1055, 1061, 1063, 1069, 1071, 1073, 1075, 1081, 1083, 1089, 1095, 1097, 1103, 1105, 1107, 1109, 1111, 1113, 1119, 1121, 1127, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1155, 1161, 1163, 1165, 1173, 1185, 1187, 1189, 1191, 1197, 1199, 1201, 1207, 1209, 1215, 1217,

1219, 1221, 1223, 1239, 1241, 1243, 1245, 1247, 1249, 1251, 1253, 1255, 1257, 1259, 1267, 1269, 1271, 1279, 1285, 1287, 1289, 1291, 1297, 1299, 1301, 1307, 1317, 1319, 1330, 1332, 1334, 1336, 1338, 1340, 1342, 1344, 1346, 1348, 1356, 1358, 1364, 1366, 1368, 1370, 1372, 1378, 1380, 1382, 1388, 1390, 1392, 1394, 1400, 1402, 1404, 1410, 1420, 1426, 1428, 1436, 1438, 1440, 1442, 1448, 1458, 1460, 1462, 1470, 1472, 1474, 1476, 1482, 1488, 1497, 1499, 1501, 1507, 1509, 1511, 1517, 1519, 1521, 1527, 1529, 1537, 1539, 1551, 1553, 1555, 1561, 1563, 1565, 1573, 1575, 1577, 1589, 1591, 1593, 1595, 1609, 1611, 1613, 1619, 1621, 1623, 1625, 1631, 1633, 1635, 1637, 1639, 1649, 1651, 1657, 1665, 1667, 1669, 1671, 1673, 1675, 1677, 1679, 1687, 1689, 1691, 1703, 1705, 1707, 1713, 1715, 1721, 1723, 1725, 1727, 1729, 1731, 1737, 1739, and 1741 shown in Tables 1-152, or a fragment thereof, wherein said activity corresponds to at least one activity for the polypeptide listed in Tables 1-152; and (ii) comparing the level of activity of the polypeptide in the test sample with a level of activity of polypeptide in a normal cell sample, wherein an altered level of activity of the polypeptide in the test cell sample relative to the level of polypeptide activity in the normal cell sample is indicative of the presence of cancer in the test cell sample.

56. (Withdrawn) A method for detecting cancer associated with the presence of an antibody in a test serum sample, comprising the steps of: (i) detecting a level of an antibody against an antigenic polypeptide selected from the group consisting of SEQ ID NOS: 8, 14, 16, 18, 20, 26, 28, 30, 32, 34, 40, 42, 48, 50, 58, 60, 66, 68, 70, 72, 74, 80, 82, 84, 86, 92, 101, 103, 105, 107, 113, 115, 117, 119, 121, 123, 125, 127, 133, 135, 141, 143, 149, 157, 159, 161, 163, 179, 181, 183, 189, 191, 193, 195, 197, 203, 209, 211, 213, 219, 221, 223, 225, 236, 238, 240, 242, 244, 246, 248, 251, 253, 255, 257, 259, 261, 263, 273, 275, 277, 294, 296, 302, 304, 312, 314, 316, 318, 324, 330, 332, 338, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 376, 378, 380, 382, 384, 386, 388, 396, 398, 409, 411, 413, 415, 421, 423, 425, 427, 429, 431, 439, 441, 443, 445, 447, 449, 451, 457, 459, 467, 469, 471, 473, 475, 477, 479, 487, 489, 491, 500, 502, 508, 510, 520, 528, 530, 536, 538, 544, 546, 552, 558, 560, 566, 568, 574, 576, 578, 580, 582, 584, 590, 592, 594, 596, 604, 606, 612, 614, 620, 622, 624, 626, 628, 634, 636, 638, 640, 646, 648, 650, 656, 662, 664, 670, 676, 678, 680, 688, 690, 692, 694, 696, 702, 704, 706, 708, 714, 716, 722,

734, 736, 751, 753, 755, 757, 759, 765, 767, 769, 771, 777, 787, 789, 791, 797, 799, 801, 803, 805, 807, 809, 815, 821, 823, 831, 833, 839, 841, 843, 845, 847, 853, 855, 861, 863, 871, 873, 875, 877, 879, 881, 889, 891, 893, 895, 897, 899, 901, 907, 909, 911, 913, 921, 923, 929, 939, 941, 943, 945, 947, 953, 955, 957, 963, 965, 967, 973, 975, 977, 979, 985, 987, 989, 991, 997, 999, 1001, 1007, 1009, 1011, 1013, 1015, 1021, 1023, 1025, 1031, 1037, 1039, 1041, 1043, 1049, 1055, 1061, 1063, 1069, 1071, 1073, 1075, 1081, 1083, 1089, 1095, 1097, 1103, 1105, 1107, 1109, 1111; 1113, 1119, 1121, 1127, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1155, 1161, 1163, 1165, 1173, 1185, 1187, 1189, 1191, 1197, 1199, 1201, 1207, 1209, 1215, 1217, 1219, 1221, 1223, 1239, 1241, 1243, 1245, 1247, 1249, 1251, 1253, 1255, 1257, 1259, 1267, 1269, 1271, 1279, 1285, 1287, 1289, 1291, 1297, 1299, 1301, 1307, 1317, 1319, 1330, 1332, 1334, 1336, 1338, 1340, 1342, 1344, 1346, 1348, 1356, 1358, 1364, 1366, 1368, 1370, 1372, 1378, 1380, 1382, 1388, 1390, 1392, 1394, 1400, 1402, 1404, 1410, 1420, 1426, 1428, 1436, 1438, 1440, 1442, 1448, 1458, 1460, 1462, 1470, 1472, 1474, 1476, 1482, 1488, 1497, 1499, 1501, 1507, 1509, 1511, 1517, 1519, 1521, 1527, 1529, 1537, 1539, 1551, 1553, 1555, 1561, 1563, 1565, 1573, 1575, 1577, 1589, 1591, 1593, 1595, 1609, 1611, 1613, 1619, 1621, 1623, 1625, 1631, 1633, 1635, 1637, 1639, 1649, 1651, 1657, 1665, 1667, 1669, 1671, 1673, 1675, 1677, 1679, 1687, 1689, 1691, 1703, 1705, 1707, 1713, 1715, 1721, 1723, 1725, 1727, 1729, 1731, 1737, 1739, and 1741 shown in Tables 1-152, or antigenic fragment thereof; and (ii) comparing said level of said antibody in the test sample with a level of said antibody in the control sample, wherein an altered level of antibody in said test sample relative to the level of antibody in the control sample is indicative of the presence of cancer in the test serum sample.

57. (Withdrawn) A method for screening for a bioactive agent capable of modulating the activity of a CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleic acid sequence selected from the group consisting of the polynucleotide sequences SEQ ID NOS: 7, 13, 15, 17, 19, 25, 27, 29, 31, 33, 39, 41, 47, 49, 57, 59, 65, 67, 69, 71, 73, 79, 81, 83, 85, 91, 100, 102, 104, 106, 112, 114, 116, 118, 120, 122, 124, 126, 132, 134, 140, 142, 148, 156, 158, 160, 162, 178, 180, 182, 188, 190, 192, 194, 196, 202, 208, 210, 212, 218, 220, 222, 224, 235, 237, 239, 241, 243, 245, 247, 250, 252, 254, 256, 258, 260, 262, 272, 274, 276, 293,



295, 301, 303, 311, 313, 315, 317, 323, 329, 331, 337, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 375, 377, 379, 381, 383, 385, 387, 395, 397, 408, 410, 412, 414, 420, 422, 424, 426, 428, 430, 438, 440, 442, 444, 446, 448, 450, 456, 458, 466, 468, 470, 472, 474, 476, 478, 486, 488, 490, 499, 501, 507, 509, 519, 527, 529, 535, 537, 543, 545, 551, 557, 559, 565, 567, 573, 575, 577, 579, 581, 583, 589, 591, 593, 595, 603, 605, 611, 613, 619, 621, 623, 625, 627, 633, 635, 637, 639, 645, 647, 649, 655, 661, 663, 669, 675, 677, 679, 687, 689, 691, 693, 695, 701, 703, 705, 707, 713, 715, 721, 733, 735, 750, 752, 754, 756, 758, 764, 766, 768, 770, 776, 786, 788, 790, 796, 798, 800, 802, 804, 806, 808, 814, 820, 822, 830, 832, 838, 840, 842, 844, 846, 852, 854, 860, 862, 870, 872, 874, 876, 878, 880, 888, 890, 892, 894, 896, 898, 900, 906, 908, 910, 912, 920, 922, 928, 938, 940, 942, 944, 946, 952, 954, 956, 962, 964, 966, 972, 974, 976, 978, 984, 986, 988, 990, 996, 998, 1000, 1006, 1008, 1010, 1012, 1014, 1020, 1022, 1024, 1030, 1036, 1038, 1040, 1042, 1048, 1054, 1060, 1062, 1068, 1070, 1072, 1074, 1080, 1082, 1088, 1094, 1096, 1102, 1104, 1106, 1108, 1110, 1112, 1118, 1120, 1126, 1132, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1154, 1160, 1162, 1164, 1172, 1184, 1186, 1188, 1190, 1196, 1198, 1200, 1206, 1208, 1214, 1216, 1218, 1220, 1222, 1238, 1240, 1242, 1244, 1246, 1248, 1250, 1252, 1254, 1256, 1258, 1266, 1268, 1270, 1278, 1284, 1286, 1288, 1290, 1296, 1298, 1300, 1306, 1316, 1318, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1355, 1357, 1363, 1365, 1367, 1369, 1371, 1377, 1379, 1381, 1387, 1389, 1391, 1393, 1399, 1401, 1403, 1409, 1419, 1425, 1427, 1435, 1437, 1439, 1441, 1447, 1457, 1459, 1461, 1469, 1471, 1473, 1475, 1481, 1487, 1496, 1498, 1500, 1506, 1508, 1510, 1516, 1518, 1520, 1526, 1528, 1536, 1538, 1550, 1552, 1554, 1560, 1562, 1564, 1572, 1574, 1576, 1588, 1590, 1592, 1594, 1608, 1610, 1612, 1618, 1620, 1622, 1624, 1630, 1632, 1634, 1636, 1638, 1648, 1650, 1656, 1664, 1666, 1668, 1670, 1672, 1674, 1676, 1678, 1686, 1688, 1690, 1702, 1704, 1706, 1712, 1714, 1720, 1722, 1724, 1726, 1728, 1730, 1736, 1738, and 1740 shown in Tables 1-152, said method comprising: a) combining said CAP and a candidate bioactive agent; and b) determining the effect of the candidate agent on the bioactivity of said CAP.

58. (Withdrawn) The method of screening for the bioactive agent according to claim 57, wherein the bioactive agent affects the expression of the CA protein (CAP).

59. (Withdrawn) The method of screening for the bioactive agent according to claim 57, wherein the bioactive agent affects the activity of the CA protein (CAP), wherein such activity is selected from the activities listed in Tables 1-152.

60. (Withdrawn) The method of screening for the bioactive agent according to claim 57, wherein the bioactive agent is a modulator of an activity selected from the group consisting of: G-protein coupled receptor, nucleotide binding, nucleic acid binding, calcium binding protein, apoptosis, cell cycle regulator, chromatin protein, transcription factor, transport protein, signal transduction, nuclear receptor, growth factor, protein kinase, protein phosphorylase, peptidase, electron transport, thioredoxin, semaphorin, signalling, and motility as shown in Tables 1-152.

61. (Currently amended) A method for diagnosing colon cancer comprising:

a) determining the level of an expression product of one or more genes comprising a nucleic acid sequence selected from the group consisting of the human genomic and mRNA sequences outlined in Tables 1-152, in a patient sample first tissue type of a first individual; said expression product comprising or encoded for by a nucleic acid comprising a sequence at least 95% identical to SEQ ID NO:1172; and

b) comparing said level of the expression product in (a) to a level of the expression product in a second sample, said second sample comprising a normal tissue of said gene(s) from a second normal tissue type from said first individual or a second unaffected individual; wherein a difference between the level of the expression products in (a) and the level of the expression products in the second sample in said expression indicates that the first-individual patient has colon cancer;  
wherein said nucleotide sequence at least 95% identical to SEQ ID NO:1172 encodes a polypeptide with oligosaccharyl transferase activity.

62. (Withdrawn) A method for treating cancers comprising administering to a patient an inhibitor of a CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a

nucleic acid sequence selected from the group consisting of the human nucleic acid sequences in Tables 1-152.

63. (Withdrawn) The method for treating cancers according to claim 62, wherein the inhibitor of a CA protein (CAP) binds to the CA protein.

64. (Withdrawn) A method for inhibiting expression of a cancer associated (CA) gene in a cell comprising: contacting a cell expressing a CA gene with a double stranded RNA comprising a sequence capable of hybridizing to a cancer associated (CA) mRNA corresponding to the polynucleotide sequences of SEQ ID NOS: 7, 13, 15, 17, 19, 25, 27, 29, 31, 33, 39, 41, 47, 49, 57, 59, 65, 67, 69, 71, 73, 79, 81, 83, 85, 91, 100, 102, 104, 106, 112, 114, 116, 118, 120, 122, 124, 126, 132, 134, 140, 142, 148, 156, 158, 160, 162, 178, 180, 182, 188, 190, 192, 194, 196, 202, 208, 210, 212, 218, 220, 222, 224, 235, 237, 239, 241, 243, 245, 247, 250, 252, 254, 256, 258, 260, 262, 272, 274, 276, 293, 295, 301, 303, 311, 313, 315, 317, 323, 329, 331, 337, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 375, 377, 379, 381, 383, 385, 387, 395, 397, 408, 410, 412, 414, 420, 422, 424, 426, 428, 430, 438, 440, 442, 444, 446, 448, 450, 456, 458, 466, 468, 470, 472, 474, 476, 478, 486, 488, 490, 499, 501, 507, 509, 519, 527, 529, 535, 537, 543, 545, 551, 557, 559, 565, 567, 573, 575, 577, 579, 581, 583, 589, 591, 593, 595, 603, 605, 611, 613, 619, 621, 623, 625, 627, 633, 635, 637, 639, 645, 647, 649, 655, 661, 663, 669, 675, 677, 679, 687, 689, 691, 693, 695, 701, 703, 705, 707, 713, 715, 721, 733, 735, 750, 752, 754, 756, 758, 764, 766, 768, 770, 776, 786, 788, 790, 796, 798, 800, 802, 804, 806, 808, 814, 820, 822, 830, 832, 838, 840, 842, 844, 846, 852, 854, 860, 862, 870, 872, 874, 876, 878, 880, 888, 890, 892, 894, 896, 898, 900, 906, 908, 910, 912, 920, 922, 928, 938, 940, 942, 944, 946, 952, 954, 956, 962, 964, 966, 972, 974, 976, 978, 984, 986, 988, 990, 996, 998, 1000, 1006, 1008, 1010, 1012, 1014, 1020, 1022, 1024, 1030, 1036, 1038, 1040, 1042, 1048, 1054, 1060, 1062, 1068, 1070, 1072, 1074, 1080, 1082, 1088, 1094, 1096, 1102, 1104, 1106, 1108, 1110, 1112, 1118, 1120, 1126, 1132, 1134, 1136, 1138, 1140, 1142, 1144, 1146, 1148, 1154, 1160, 1162, 1164, 1172, 1184, 1186, 1188, 1190, 1196, 1198, 1200, 1206, 1208, 1214, 1216, 1218, 1220, 1222, 1238, 1240, 1242, 1244, 1246, 1248, 1250, 1252, 1254, 1256, 1258, 1266, 1268, 1270, 1278,

1284, 1286, 1288, 1290, 1296, 1298, 1300, 1306, 1316, 1318, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1355, 1357, 1363, 1365, 1367, 1369, 1371, 1377, 1379, 1381, 1387, 1389, 1391, 1393, 1399, 1401, 1403, 1409, 1419, 1425, 1427, 1435, 1437, 1439, 1441, 1447, 1457, 1459, 1461, 1469, 1471, 1473, 1475, 1481, 1487, 1496, 1498, 1500, 1506, 1508, 1510, 1516, 1518, 1520, 1526, 1528, 1536, 1538, 1550, 1552, 1554, 1560, 1562, 1564, 1572, 1574, 1576, 1588, 1590, 1592, 1594, 1608, 1610, 1612, 1618, 1620, 1622, 1624, 1630, 1632, 1634, 1636, 1638, 1648, 1650, 1656, 1664, 1666, 1668, 1670, 1672, 1674, 1676, 1678, 1686, 1688, 1690, 1702, 1704, 1706, 1712, 1714, 1720, 1722, 1724, 1726, 1728, 1730, 1736, 1738, and 1740 shown in Tables 1-152, in an amount sufficient to elicit RNA interference; and inhibiting expression of the CA gene in the cell.

65. **(Withdrawn)** The method of claim 64, wherein the double stranded RNA is provided by introducing a short interfering RNA (siRNA) into the cell by a method selected from the group consisting of transfection, electroporation, and microinjection.

66. **(Withdrawn)** The method of claim 64, wherein the double stranded RNA is provided by introducing a short interfering RNA (siRNA) into the cell by an expression vector.

67. **(New)** A method for diagnosing colon cancer comprising detecting evidence of differential expression of STT3 in a patient sample wherein evidence of differential expression of STT3 indicates that the patient has colon cancer.

68. **(New)** The method of claim 67, wherein STT3 gene expression in the patient sample is up-regulated relative to STT3 gene expression in normal tissue.

69. **(New)** The method of claim 67 wherein evidence of differential expression is detected by measuring the level of an expression product of STT3.

70. **(New)** The method of claim 69 wherein the expression product is a polypeptide or mRNA.

71. (New) The method of claim 69 wherein the expression product is a mRNA having a sequence at least 98% identical to SEQ ID NO:1172.
72. (New) The method of claim 69 wherein the expression product is a mRNA having a sequence of SEQ ID NO:1172.
73. (New) The method of claim 69 wherein the level of expression product in the patient sample is compared to a control.
74. (New) The method of claim 73 wherein the control is a known normal tissue of the same tissue type as in the patient sample.
75. (New) The method of claim 73 wherein the level of the expression product in the sample is increased at least 50% relative to the control.
76. (New) The method of claim 73 wherein the level of the expression product in the sample is increased at least 100% relative to the control.
77. (New) The method of claim 73 wherein the level of the expression product in the sample is increased at least 150% relative to the control.
78. (New) The method of claim 61 wherein the expression product is a mRNA having a sequence at least 98% identical to SEQ ID NO:1172.
79. (New) The method of claim 61 wherein the expression product is a mRNA having a sequence of SEQ ID NO:1172.
80. (New) The method of claim 61 wherein the level of the expression product in the sample is increased at least 50% relative to the control.
81. (New) The method of claim 61 wherein the level of the expression product in the sample is increased at least 100% relative to the control.
82. (New) The method of claim 61 wherein the level of the expression product in the sample is increased at least 150% relative to the control.
83. (New) A method of diagnosing colon cancer comprising:

a) determining the level of a nucleotide sequence that hybridizes under highly stringent conditions to SEQ ID NO:1172, or a complement thereof, in a patient sample; wherein hybridization is performed at 50°C to 60°C in 5 X SSC (9 mM saline /0.9 mM sodium citrate); and

b) comparing said level of nucleotide sequence in (a) to a level of the nucleotide sequence in a second sample, said second sample comprising a negative control comprising non-cancerous tissue;

wherein an increase of at least 50% between the level of the nucleotide sequence in (a) and the level of the nucleotide sequence in the second sample indicates that the patient has prostate cancer, colon cancer, stomach cancer or breast cancer.

84. (New) The method of claim 83 wherein the level of the nucleotide sequence in (a) is increased at least 50% relative to the control.

85. (New) The method of claim 83 wherein the level of the nucleotide sequence in (a) is increased at least 100% relative to the control.

86. (New) The method of claim 83 wherein the level of the nucleotide sequence in (a) is increased at least 150% relative to the control.